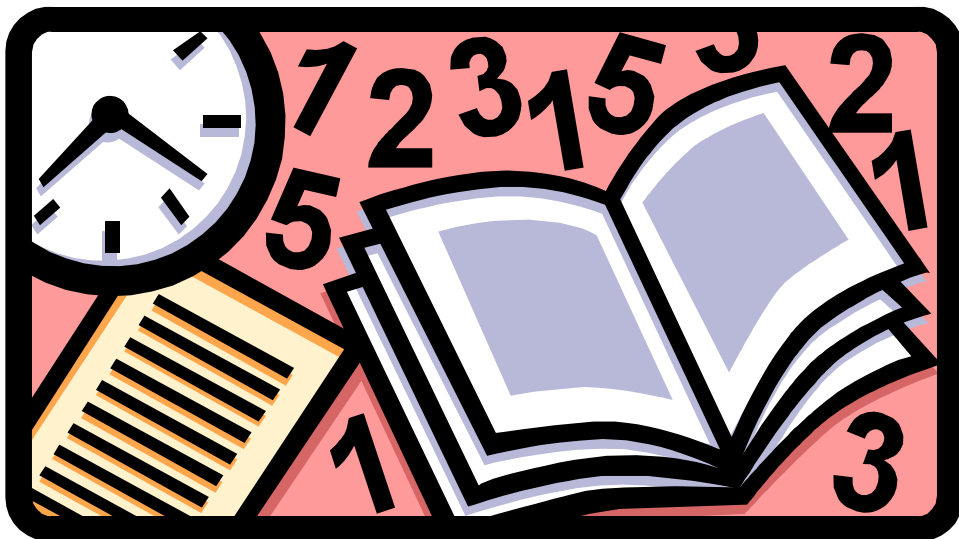


# Analyzing and Using Assessment Data



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**Lisa Walters, Library Media/Technology**

**Valerie Nelson, Science**

# Sources for Presentation

- **North Central Regional Educational Laboratory**  
**Tutorial on Analyzing Data**
- **National Center for Improving Learning and Achievement**  
**Principled Practice – The Changing Face of Assessment**
- **Curriculum Consultants: Department of Elementary and Secondary Education**

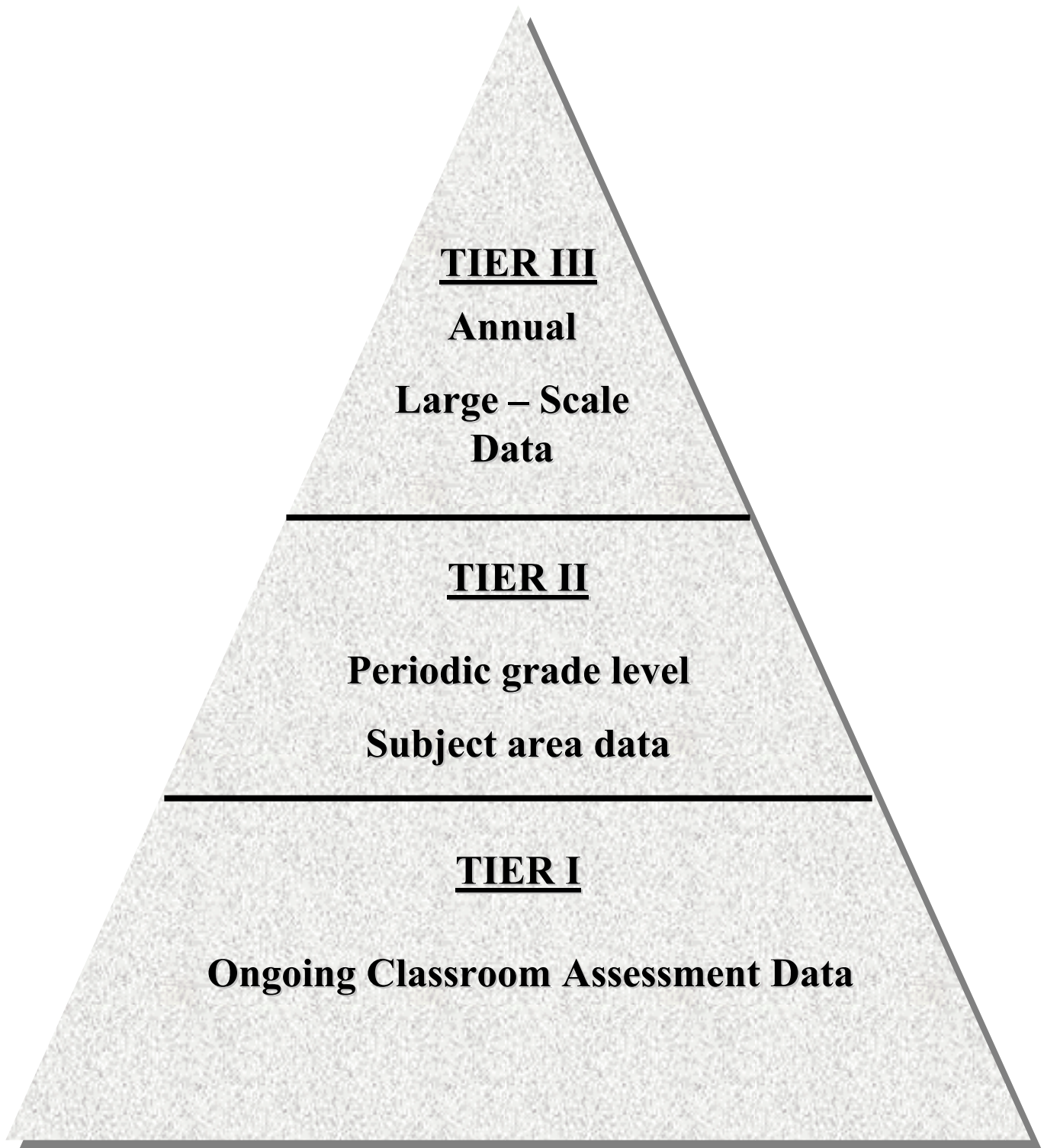
**Goal:**

**Uncover patterns and relationships that may have an impact on student achievement.**

# Process for Analyzing Data

- Digging Through the Data
- Charting/Graphing/Diagramming
- Collaborating
- Hypothesizing
- Testing

# Tiers of Assessment Data



# Tiers of Assessment Data

## **TIER I**

### **Ongoing Classroom Assessment Data**

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- **Assesses depth of conceptual understanding as well as knowledge skills.**
- **Direct impact on instructional practices.**
- **Decisions can be founded solidly on how students are performing.**
- **Critical for evaluating curriculum.**
- **Allows for multiple snapshots, taken from different angles with different lenses.**

# Tiers of Assessment Data

## **TIER II**

**Periodic  
grade  
level/subject  
area data**

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- **Helps document the success of school programs.**
- **Provides base-line data on student-performance.**
- **Helps determine strengths and weaknesses in a particular content area over time intervals.**
- **May identify groups of students with special needs.**



# Tiers of Assessment Data

## **TIER III**

**Annual**

**Large-Scale  
Data**

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- **Designed to provide a broad view of the districts achievement levels.**
- **Useful to curriculum teams that use the information to evaluate the general effectiveness of the curriculum.**
- **Used to sample broad domains of student knowledge.**
- **Not helpful when evaluating student progress.**

# Tiers of Assessment Data

## **TIER III**

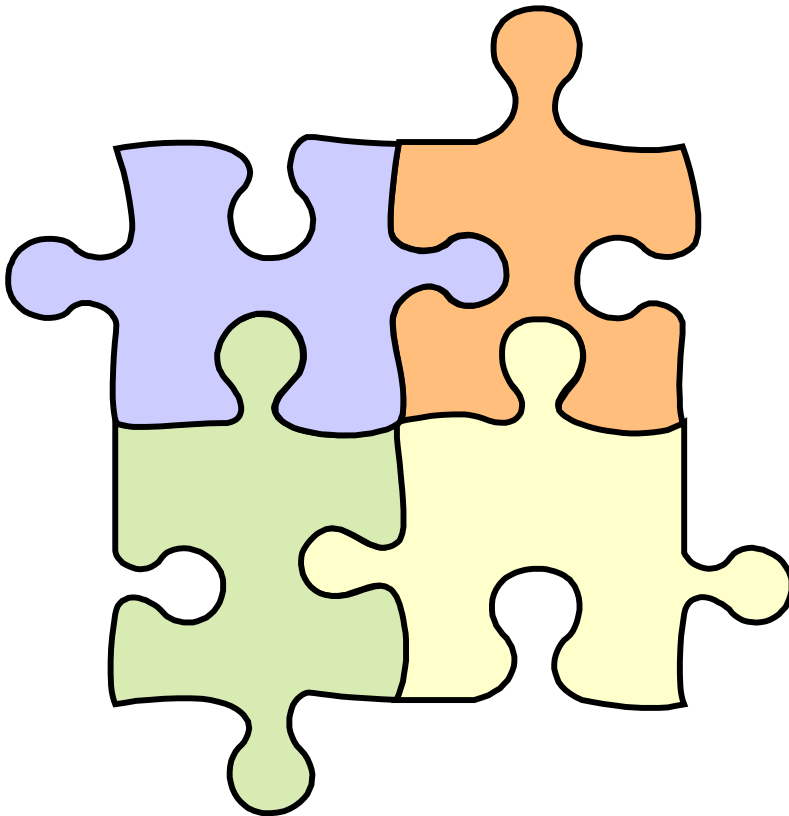
**Assessments**

**CANNOT:**

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- **Help a teacher adjust lesson plans during the school year.**
- **Help teams make placement or program decisions during the school year.**
- **Provide information on a student's progress during the school year.**
- **Provide more detailed information about the student's skill attainment toward the standard.**
- **Show a student's depth of conceptual understanding.**

# Proficiency Analysis



## EXPECTATIONS CHART

Highlight Color	Meaning	% of Students (suggested cutoffs)	% of Students (our cutoff levels)
<b>GREEN</b>	<b>Meets Expectations</b>	<b>80% and Above</b>	
<b>YELLOW</b>	<b>Below Expectations</b>	<b>51% to 79%</b>	
<b>PINK</b>	<b>In need of immediate improvement</b>	<b>0 to 50%</b>	

# Questions To Consider

- **What patterns do we see in this year's results?**
- **Do we see similar patterns in past years' results?**
- **What trends emerge over the past several years?**  
**Are these trends moving toward our goals?**
- **Do these data surprise us?**
- **Are there other broad data that shows similar Patterns?**

# PERCENTAGE OF STUDENTS AT PROFICIENT AND ADVANCED LEVELS

(e.g., Meets and Exceeds)

Grade	School Year (e.g., 1999 to 2000)	Comm. Arts	Math	Science	Social Studies	Fine Arts	Health/ P.E.
03	97 to 98	39%		68%			
	98 to 99	54%		68%			
	99 to 00	54%		81%			
	00 to 01	56%		80%			
04	96 to 97		35%				
	97 to 98		44%				
	98 to 99		55%		76%		
	99 to 00		59%		80%		
	00 to 01		62%		82%		
05	97 to 98						
	98 to 99						
	99 to 00						69%
	00 to 01						82%
07	97 to 98	42%		41%			
	98 to 99	34%		52%			
	99 to 00	22%		46%			
	00 to 01	39%		58%			
08	96 to 97		26%				
	97 to 98		39%				
	98 to 99		55%		83%		
	99 to 00		61%		84%		
	00 to 01		59%		81%		
09	97 to 98						
	98 to 99						
	99 to 00						50%
	00 to 01						81%
10	97 to 98		42%				
	98 to 99		36%				
	99 to 00		39%	10%			
	00 to 01		45%	10%			
			48%	18%			
11	97 to 98	55%					
	98 to 99	54%			52%		
	99 to 00	44%			56%		
	00 to 01	54%			59%		

100-

90-

80-

70-

60-

50-

40-

30-

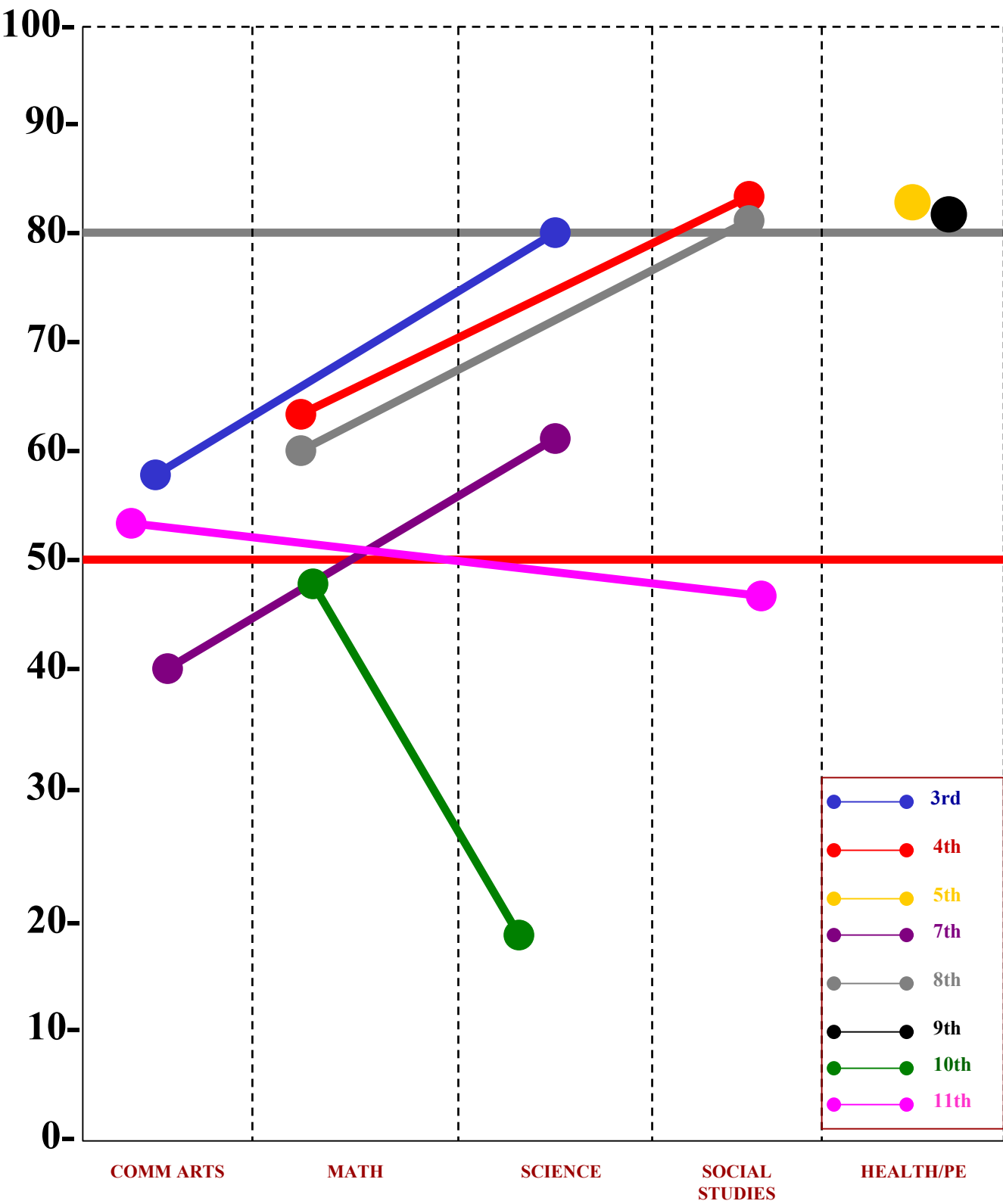
20-

10-

0-



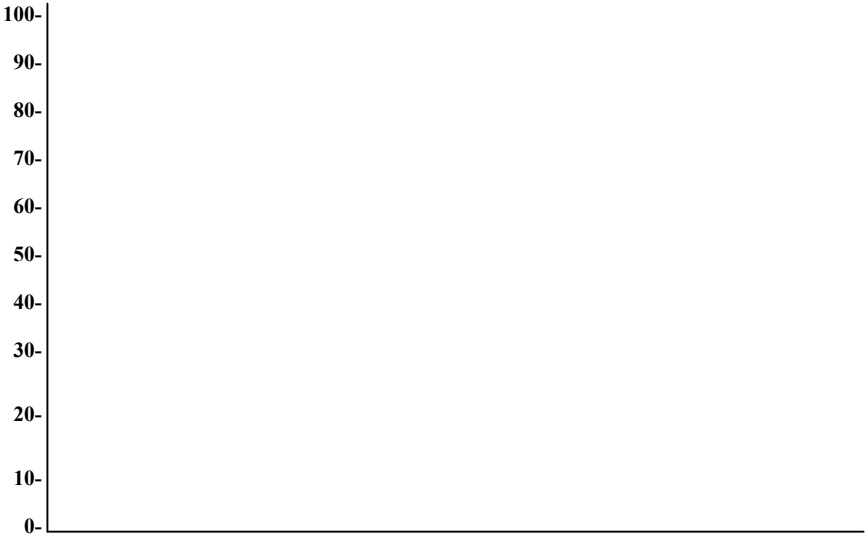
# Percent of Students at the Proficient and Advanced Levels By Grade and Subject 2000-2001





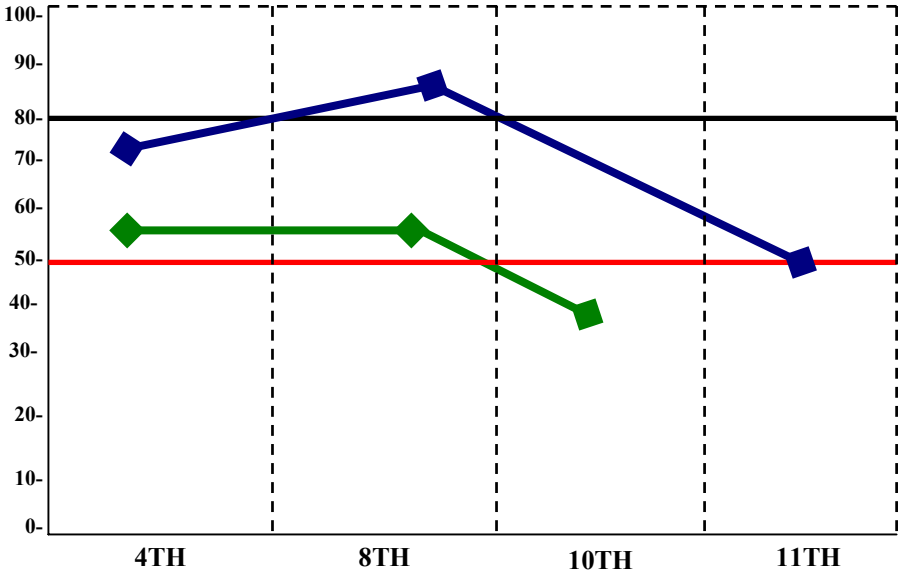
# Observations

- Communication Arts:  
All grades below expectations  
7<sup>th</sup> grade lowest
- Mathematics:  
All below expectations  
Fewer as grade level goes up
- Science:  
Meets expectations at 3<sup>rd</sup>  
Major decrease as grade level goes up
- Social Studies:  
Two grade levels above expectations  
11<sup>th</sup> grade significantly below other grades  
Decreases as grade level goes up
- Health/PE:  
Met expectations at both grade levels

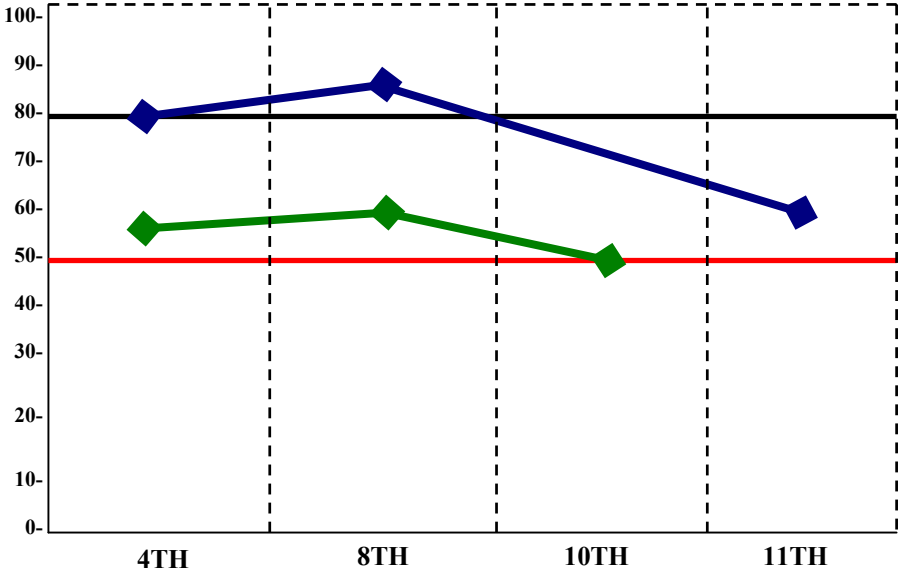


Percent of Students at Proficient and Advance Levels In Math and Social Studies over Years and Grades

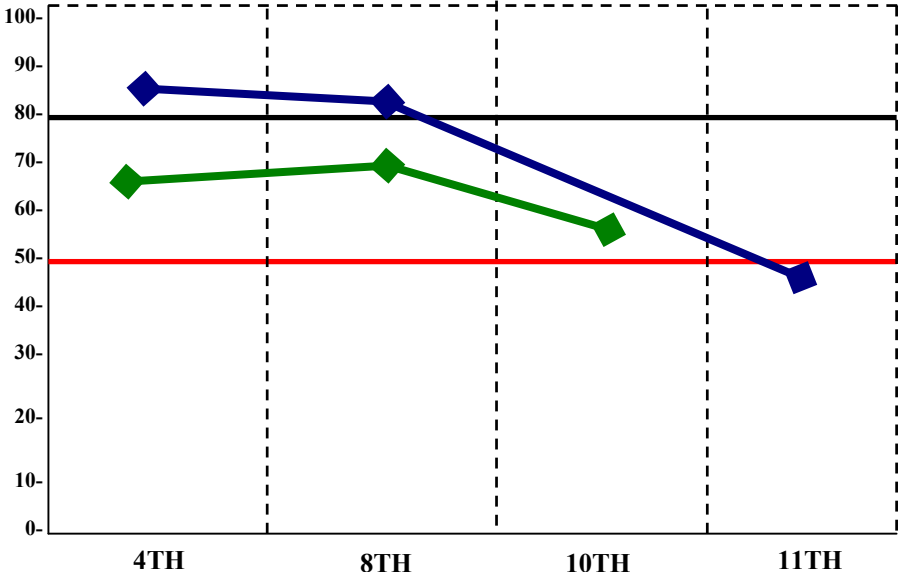
1998-99



1999-00



2000-01



Math

Social Studies

# Observations

## (OVER YEARS)

- Mathematics:

After three (3) years, math at all grade levels is below expectations.

Decreases at 10<sup>th</sup> grade level

Graphs are consistent at all grade levels in mathematics.

- Social Studies:

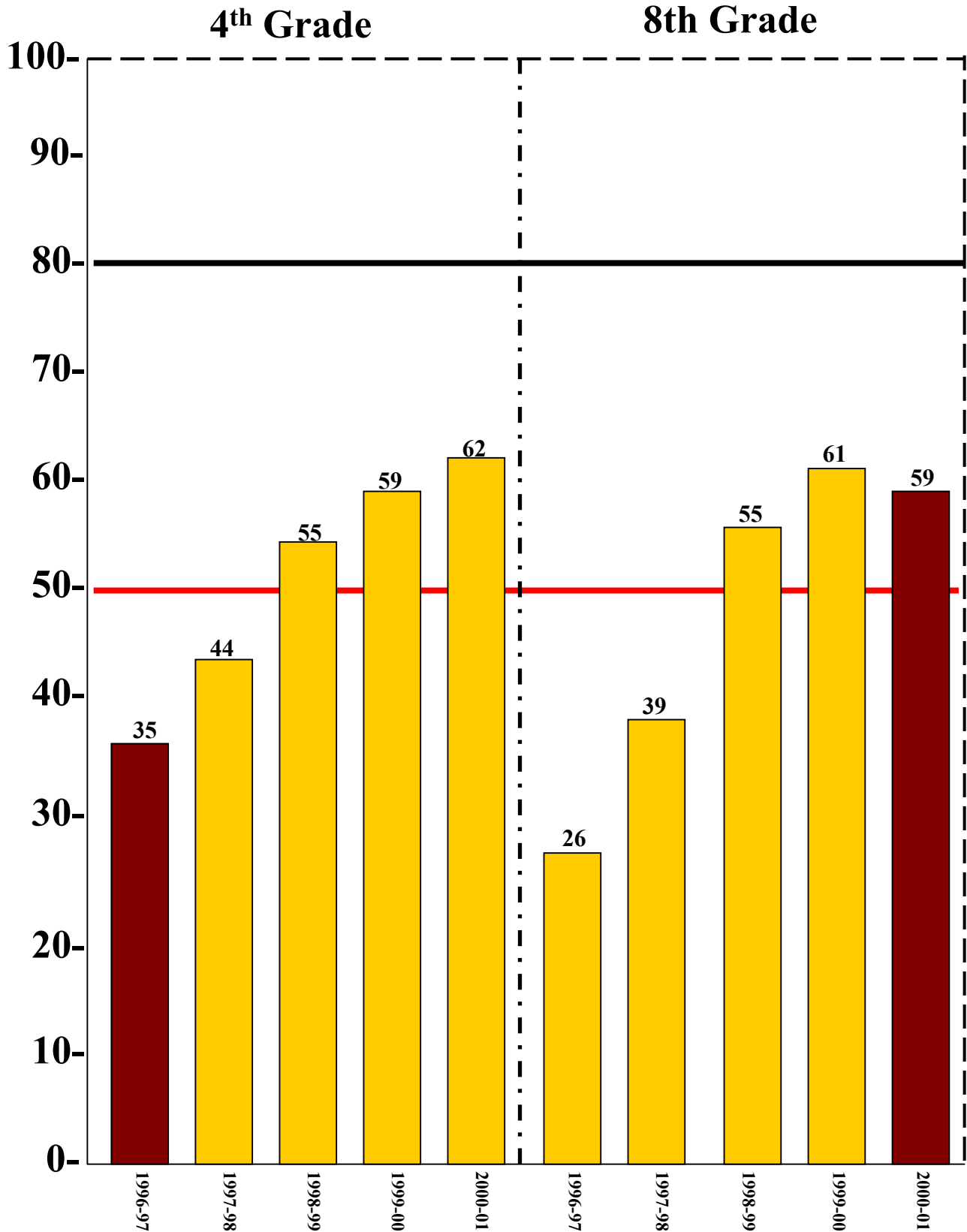
Fourth grade has increased over years.

Decrease at 10<sup>th</sup> grade

Graphs are consistent at all grade levels

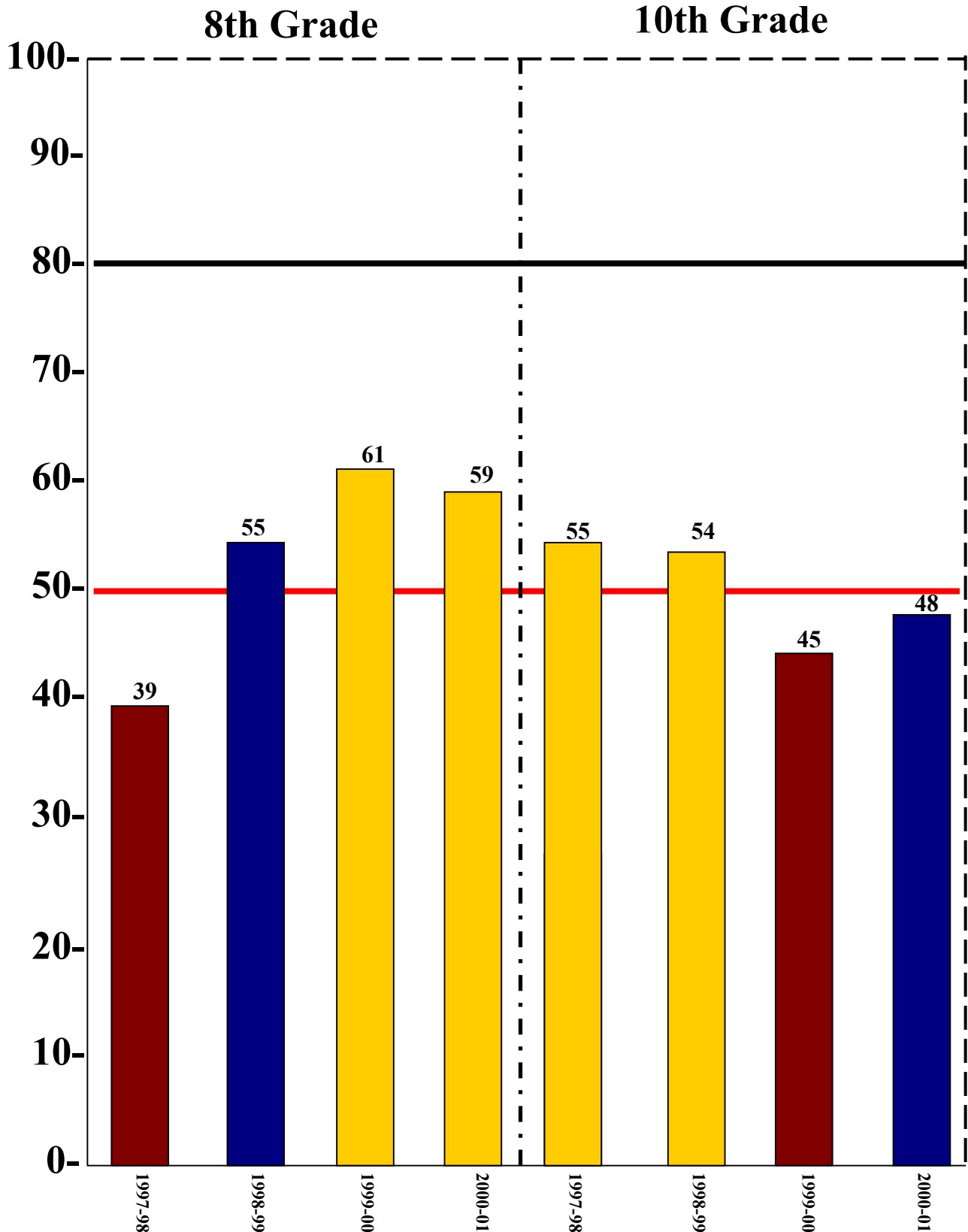
# Percent of Students at Proficient and Advanced Levels In Mathematics by Year and Grade

Years 4 and 8



# Percent of Students at Proficient and Advanced Levels In Mathematics by Year and Grade

## Years 8 and 10



## **Caution**

### **Looking At Average Scores**

**An average score is an average; the percentage of Students above or below the averages is not known**

## Caution When Using Averages

**Example:**

**Average = 40**

**a. 20 40 40 40 40 60**

**b. 10 10 10 10 100 100**



## CONTENT AREA:

[illegible]

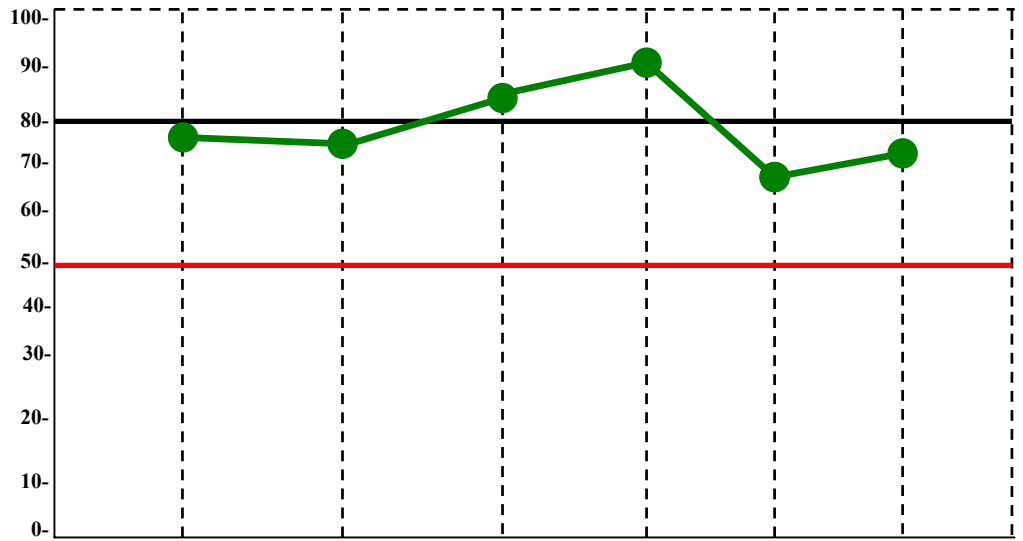
## CONTENT AREA:

<b>Strands</b>	<b>School Year</b>	<b>Average Percent Score for All Students</b>
<b>NUMBER SENSE</b>	1997-1998	76%
	1998-1999	79%
	1999-2000	73%
	2000-2001	74%
<b>GEOMETRIC / SPATIAL SENSE</b>	1997-1998	66%
	1998-1999	77%
	1999-2000	75%
	2000-2001	80%
<b>DATA ANALYSIS, PROBABILITY</b>	1997-1998	81%
	1998-1999	81%
	1999-2000	91%
	2000-2001	79%
<b>PATTERNS AND RELATIONSHIPS</b>	1997-1998	83%
	1998-1999	87%
	1999-2000	74%
	2000-2001	76%
<b>MATHEMATICAL SYSTEMS</b>	1997-1998	86%
	1998-1999	65%
	1999-2000	82%
	2000-2001	68%
<b>DISCRETE MATHEMATICS</b>	1997-1998	46%
	1998-1999	66%
	1999-2000	66%
	2000-2001	74%
	1997-1998	
	1998-1999	
	1999-2000	
	2000-2001	

# Average Percent Score for all Students by Strand for Mathematics

**YEAR**

**1998-99**



**CONTENT STANDARDS:**

**NS**

**G**

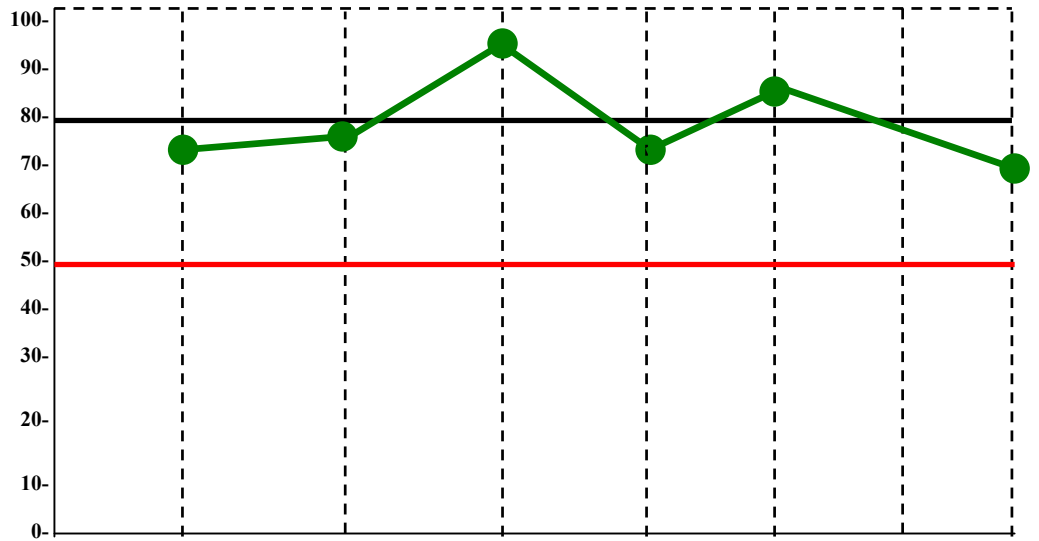
**DA**

**P**

**MS**

**DI**

**1999-00**



**NS**

**G**

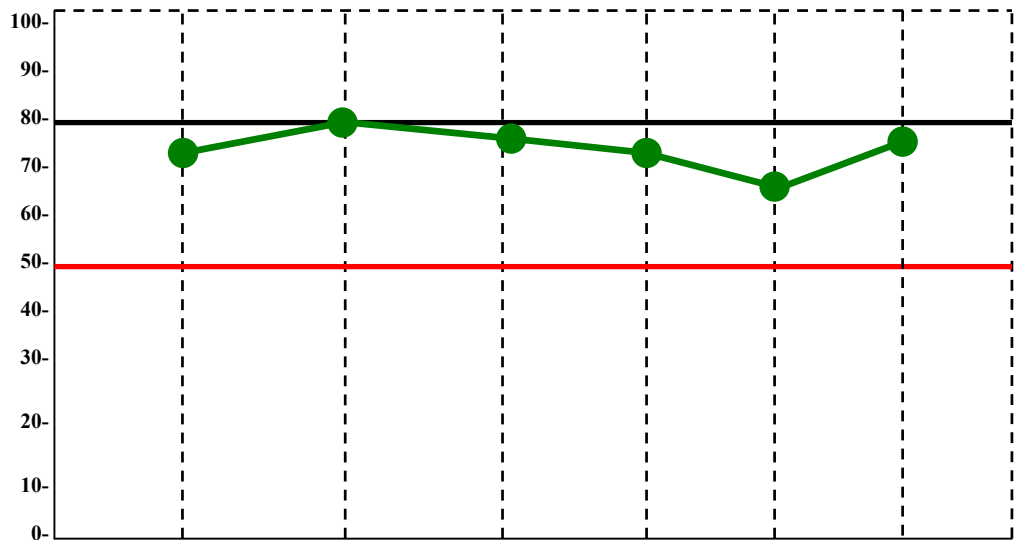
**DA**

**P**

**MS**

**DI**

**2000-01**



**NS**

**G**

**DA**

**P**

**MS**

**DI**

	Communication Arts	Math	Science	Social Studies	Fine Arts	Health/PE

PL=Performance Level

	<b>Communication Arts</b>	<b>Math</b>	<b>Science</b>	<b>Social Studies</b>	<b>Fine Arts</b>	<b>Health/PE</b>
<b>Student E</b> <b>E= Asian</b> <b>Male</b> <b>Title I</b> <b>Alg I</b>	<b>PL2</b>	<b>PL2</b>	<b>PL2</b>	<b>PL1</b>		<b>PL5</b>
<b>Student F</b> <b>E= Asian</b> <b>Female</b> <b>App. AlgI</b>	<b>PL2</b>	<b>PL4</b>	<b>PL5</b>	<b>PL2</b>		<b>PL4</b>
<b>Student G</b> <b>E= Asian</b> <b>Male</b> <b>General</b> <b>Math</b>	<b>PL1</b>	<b>PL1</b>	<b>PL2</b>	<b>PL1</b>		<b>PL4</b>
<b>Student H</b> <b>Male</b> <b>Gifted</b> <b>E=Black</b>	<b>PL4</b>	<b>PL5</b>	<b>PL4</b>	<b>PL5</b>		<b>PL3</b>

**PL=Performance Levels:**

**PL1= Step 1**

**PL2= Progressing**

**PL3 = Nearing Proficient**

**PL4 = Proficient**

**PL5 = Advanced**

	Communication Arts	Math	Science	Social Studies	Fine Arts	Health/PE
Student A Dist < 1 Alg I E = White	PL4	PL2	PL5	PL4		PL5
Student B Female Title I App. Alg I E = White	PL5	PL4	PL4	PL5		PL3
Student C E = Hispanic Female Gen Math	PL1	PL1	PL3	PL2		PL4
Student D Dist < 1 Female Alg I E=White	PL4	PL2	PL5	PL5		PL4
<u>PL=Performance Level</u>						

PL1 = Step 1

PL2 = Progressing

PL3 = Nearing Proficient

PL4 = Proficient

PL5 = Advanced

# **Content Itemized Reports**

# HYPOTHESIS TESTING

Problem:

HYPOTHESIS	EVIDENCE TO THE CONTRARY?



# HYPOTHESIS TESTING

**Problem:** At all grade levels, mathematics scores are consistently below expectations and have remained constant since 1998.

## HYPOTHESIS

## EVIDENCE TO THE CONTRARY?

**Our math curriculum is not aligned to state standards.**

**Accept as a Possibility:**  
Curriculum materials over 10 years old and little alignment has been performed.

**Students in general math are all at the bottom level. Is the general math curriculum rigorous and does it cover appropriate topics?**

**Accept as a Possibility:**  
The general math curriculum is mainly a repeat of computation skills.

**Eighth grade scorers remain below expectation over a period of 4 years. Are our middle school teachers prepared to teach to rigorous standards.**

**Reject:**  
Teachers are all certified, enthusiastic, and are very knowledgeable of new standards.